

What Is Claimed Is:

1 1. A method of simulating operation of a media device over a network,
2 comprising:
3 extracting data from one or more data sources in response to receiving
4 commands from a first server, the first server communicatively
5 coupled to the network;
6 combining the commands with the data extracted to form an integrated
7 presentation corresponding to an interface for the operation of the
8 media device; and
9 transferring the integrated presentation to the first server for display on a
10 client coupled to the network.

1 2. The method according to Claim 1, wherein a second server receives the
2 commands, the second server being web-hosted by the first server.

1 3. The method according to Claim 2, wherein the second server instantiates a
2 plurality of objects for encapsulating functions associated with the operation of the media
3 device, the objects comprising programmable interfaces for operating the media device.

1 4. The method according to Claim 3, wherein the operation of the media device is
2 simulated using the programmable interfaces.

1 5. The method according to Claim 2, wherein one of the commands causes the
2 first server to access the second server for receiving the commands.

1 6. The method according to Claim 1, wherein the integrated presentation is
2 transferred in XML format.

1 7. The method according to Claim 1, wherein the data sources comprise
2 databases, the media device, and online services.

1 8. The method according to Claim 1, wherein the data sources comprise
2 broadcast programming guides in an electronic format.

1 9. The method according to Claim 1, wherein the network comprises the Internet.

1 10. The method according to Claim 1, wherein the media device is a digital video
2 recorder.

1 11. The method according to Claim 1, wherein the interface is selected from a
2 group of interfaces consisting of a login interface, a Channel Guide, a Replay Guide,
3 Replay Shows, Replay Channels, Find Shows, and Manual Record.

1 12. The method according to Claim 1, wherein the client comprises a browser.

1 13. A method of operating a media device through a web-hosted application,
2 comprising:
3 accessing a first server to launch the web-hosted application, the web-
4 hosted application being capable of communicating with the media
5 device to extract data therefrom;
6 receiving one or more integrated presentations formed by the web-hosted
7 application and sent by the first server in response to accessing the
8 first server, each of the integrated presentations including the data
9 extracted to replicate a corresponding interface of the media
10 device;
11 selecting portions of the interface to initiate one or more commands to
12 operate the media device; and
13 transmitting the commands to the web-hosted application via the first
14 server.

1 14. The method according to Claim 13, further comprising:
2 the web-hosted application transmitting the commands received to the
3 media device for operating the media device.

1 15. The method according to Claim 13, wherein the web-hosted application

2 instantiates a plurality of objects for encapsulating functions associated with operating
3 the media device, wherein the objects comprise programmable interfaces for operating
4 the media device.

1 16. The method according to Claim 15, further comprising operating the media
2 device using the programmable interfaces.

1 17. The method according to Claim 13, wherein one of the commands causes the
2 first server to access a second server, the web-hosted application running on the second
3 server.

1 18. The method according to Claim 13, wherein the integrated presentation is
2 transferred in XML format.

1 19. The method according to Claim 13, wherein the integrated presentations are
2 formed by combining the data extracted with additional data received by the web-hosted
3 application from one or more sources of data.

1 20. The method according to Claim 19, wherein the sources of data comprise
2 databases and online services.

1 21. The method according to Claim 19, wherein the sources of data comprise
2 broadcast programming guides in an electronic format.

1 22. The method according to Claim 13, wherein accessing the first

2 server comprises sending an http request over the Internet to the first server.

1 23. The method according to Claim 13, wherein the media device is selected
2 from a group consisting of a digital video recorder, a personal digital assistant, a mobile
3 telephone, and a pager.

1 24. The method according to Claim 13, wherein the interface is selected from a
2 group of interfaces consisting of a login interface, a Channel Guide, a Replay Guide,
3 Replay Shows, Replay Channels, Find Shows, and Manual Record.

1 25. The method according to Claim 13, wherein the data is extracted periodically.

1 26. The method according to Claim 13, wherein the data is extracted on-the-fly.

1 27. A method of remote control of at least one media device, comprising:
2 maintaining a local representation of pre-existing information and data
3 extracted from a plurality of data sources including the media
4 device;
5 forming an integrated presentation by combining the pre-existing
6 information with the data extracted;
7 transferring the integrated presentation to a network computing system for
8 display on a client in response to receiving an instruction from the
9 client;
10 receiving a command from the client in response to portions of the

11 integrated presentation being selected, the command representing
12 an operation to be performed on the media device;
13 updating the local representation with the command; and
14 sending the command to the media device to perform the operation on the
15 media device.

1 28. The method according to Claim 27, wherein the network computing system
2 comprises at least one web server communicatively coupled to a network, the web server
3 receiving and forwarding the integrated presentation to the client over the network.

1 29. The method according to Claim 28, wherein the network comprises the
2 Internet.

1 30. The method according to Claim 27, wherein the data sources are selected
2 from a group consisting of databases and online websites.

1 31. The method according to Claim 27, wherein the integrated presentation
2 comprises a virtual representation of a user interface associated with the media device.

1 32. The method according to Claim 27, wherein maintaining the local
2 representation comprises storing the pre-existing information and the data on a database.

1 33. The method according to Claim 27, further comprising:
2 instantiating a plurality of objects for encapsulating functions associated

3 with the operation of the media device, wherein the objects
4 comprise programmable interfaces for invoking the operation on
5 the media device.

1 34. The method according to Claim 33, further comprising sending the command
2 to the media device using the programmable interfaces.

1 35. The method according to Claim 27, wherein the integrated presentation is
2 transferred in XML format.

1 36. The method according to Claim 27, wherein the data sources comprise
2 broadcast programming guides in an electronic format.

1 37. The method according to Claim 27, wherein the media device comprises a
2 digital video recorder.

1 38. The method according to Claim 27, wherein the integrated presentation is
2 selected from a group of interfaces consisting of a login interface, a Channel Guide, a
3 Replay Guide, Replay Shows, Replay Channels, Find Shows, and Manual Record.

1 39. The method according to Claim 27, wherein the client comprises a browser.

1 40. The method according to Claim 27, wherein the local representation is
2 maintained on a periodic basis.

1 41. The method according to Claim 27, wherein the local representation is
2 maintained on-the-fly.

1 42. A system, comprising:
2 a first subsystem having one or more media devices distributed in a load-
3 balanced configuration;
4 coupled to the first subsystem, a second subsystem maintaining a virtual
5 representation of one or more user interfaces replicated from each
6 of the media devices; and
7 coupled to the second subsystem, a third subsystem displaying the virtual
8 representation and simulating operation of the media devices based
9 on portions of the user interfaces being selected.

1 43. The system according to Claim 42, wherein the user interfaces are replicated
2 periodically.

1 44. The system according to Claim 42, wherein the third subsystem comprises at
2 least one web server communicatively coupled to a network, the web server receiving and
3 forwarding the virtual representation to a client for display over the network.

1 45. The system according to Claim 44, wherein the network comprises the
2 Internet.

1 46. The system according to Claim 44, wherein the second subsystem comprises
2 at least one database, said database storing the virtual representation.

1 47. The system according to Claim 46, wherein the second subsystem comprises
2 a first server and a second server, the first server communicating with the media devices
3 periodically, and the second server forwarding the virtual representation to the client via
4 the a corresponding web server.

1 48. The method according to Claim 44, wherein the client comprises a browser.

1 49. The method according to Claim 42, wherein the media devices each
2 comprises a digital video recorder.

1 50. The method according to Claim 42, wherein the interfaces are selected from a
2 group of interfaces consisting of a login interface, a Channel Guide, a Replay Guide,
3 Replay Shows, Replay Channels, Find Shows, and Manual Record.

1 51. A computer program product for simulating operation of a media device over
2 a network, the computer program product stored on a computer readable medium, and
3 adapted to perform operations, comprising:

4 extracting data from one or more data sources in response to receiving
5 commands from a first server, the first server communicatively
6 coupled to the network;

combining the commands with the data extracted to form an integrated presentation corresponding to an interface for the operation of the media device; and transferring the integrated presentation to the first server for display on a client coupled to the network.

52. A computer program product for operating a media device through a web-hosted application, the computer program product stored on a computer readable medium, and adapted to perform operations, comprising:

- accessing a first server to launch the web-hosted application, the web-hosted application being capable of communicating with the media device to extract data therefrom;
- receiving one or more integrated presentations formed by the web-hosted application and sent by the first server in response to accessing the first server, each of the integrated presentations including the data extracted to replicate a corresponding interface of the media device;
- selecting portions of the interface to initiate one or more commands to operate the media device; and
- transmitting the commands to the web-hosted application via the first server.

53. A computer program product for remote control of at least one media device,

2 the computer program product stored on a computer readable medium, and adapted to
3 perform operations, comprising:
4 maintaining a local representation of pre-existing information and data
5 extracted from a plurality of data sources including the media
6 device;
7 forming an integrated presentation by combining the pre-existing
8 information with the data extracted;
9 transferring the integrated presentation to a network computing system for
10 display on a client in response to receiving an instruction from the
11 client;
12 receiving a command from the client in response to portions of the
13 integrated presentation being selected, the command representing
14 an operation to be performed on the media device;
15 updating the local representation with the command; and
16 sending the command to the media device for performing the operation on
17 the media device.

1 54. A computer-implemented method for providing control input to a media-
2 based device through a web hosted application, comprising:
3 accessing a first server from at least one client browser, the first server
4 executing the web hosted application;
5 the web hosted application accessing a database to display on the browser

6 user interface information received from the media-based device ;
7 receiving a user instruction to change the user interface information; and
8 the first server sending the user instruction to the web hosted application
9 database for archival and transfer to the media-based device.